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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,152	10/15/2001	Takeshi Takezawa	110858	9283

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EXAMINER

NGO, HUYEN LE

ART UNIT PAPER NUMBER

2871

DATE MAILED: 06/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/976,152

Applicant(s)

TAKEZAWA ET AL.

Examiner

Julie-Huyen L. Ngo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The abstract of the disclosure is objected to because it contains more than one paragraphs and not clearly states which is new in the art to which the invention pertains.

Correction is required. See MPEP § 608.01(b).

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-3 and 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Murakami et al. (US6529250B1).

Murakami et al. teach (Fig. 4) forming a projector comprising:

(claim 1)

- a light source 100
- a projection lens 127, which projects the light modulated by the liquid crystal device
- a liquid crystal devices 123-125, which modulates light emitted from the light source; said liquid crystal device having:
 - a base substrate that has a plurality of pixel electrodes disposed in a matrix arrangement and drive elements each provided for corresponding one of the pixel electrodes and electrically connected thereto,
 - a counter substrate provided with a light-shielding mask which covers at least a portion of the drive elements, and
 - liquid crystals provided between the base substrate and the counter substrate;

wherein the angle of light incident upon the liquid crystal device is restricted not to allow the light to strike the drive elements (col. 5 lines 48-63).

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(Claim 2)

- a condenser lens being provided at a light-incident side of the liquid crystal device, wherein, by shifting a center axis of light incident upon the condenser lens and an optical axis of the condenser lens in parallel so that the incident angle of light that strikes the drive elements becomes small when the center axis of the light incident upon the condenser lens and the optical axis of the condenser lens coincide, the angle of the light incident upon the liquid crystal device is restricted

(Claim 3)

- an optical axis of the projection lens being shifted parallel to the center axis of the light incident upon the condenser lens in the same direction as the optical axis of the condenser lens

(Claim 17)

- a color light separation optical system 113-114, which separates the light emitted from the light source into light beams of a plurality of colors being disposed between the light source and the liquid crystal device

(claim 18)

- a liquid crystal devices 123-125, which modulates light emitted from the light source, in correspondence with the light beams of a plurality of colors

Claims 1, 4-6 and 16-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Ogawa (US6195143B1).

Ogawa teaches (Figs. 6-7) forming a projector comprising:

(Claim 1)

- a light source 100;
- a liquid crystal devices 250/252/254, which modulates light emitted from the light source, said liquid crystal device (Fig. 6) having:
 - a base substrate 821 that has a plurality of pixel electrodes 823 disposed in a matrix arrangement and drive elements 822 each provided for corresponding one of the pixel electrodes 823 and electrically connected thereto,
 - a counter substrate 825 provided with a light-shielding mask 826P which covers at least a portion of the drive elements,
 - liquid crystals 827 provided between the base substrate and the counter substrate
- a projection lens 270 which projects the light modulated by the liquid crystal device

wherein the angle of light incident upon the liquid crystal device is restricted not to allow the light to strike the drive elements (col. 5 lines 48-63).

(Claim 4)

- a plurality of lenses corresponding to the pixel electrodes being further provided at a light-incident side of the base substrate, and by shifting a center axis of light incident upon the micro-lens array and a center of the micro-lens array so that the incident angle of light that strikes the drive elements

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becomes small when the center axis of the light incident upon the micro-lens array and the center of the micro-lens array coincide, the angle of the light incident upon the liquid crystal device is restricted

(Claim 5)

- the micro-lens array is provided on the counter substrate

(Claim 6)

- an optical axis of the projection lens is shifted parallel to the center axis of the light incident upon the micro-lens array in the same direction as the center of the micro-lens array

(Claim 16)

- a scanning line and a data line that crosses and is situated above the scanning line on the base substrate being provided at the base substrate, and the drive element being connected to the data line and the scanning line, and including channel areas and semiconductor layer situated below the scanning line on the substrate.

(Claim 17)

- a color light separation optical system 200, which separates the light emitted from the light source into light beams of a plurality of colors being disposed between the light source and the liquid crystal device

(Claim 18)

- said liquid crystal devices modulate light emitted from the light source in correspondence with the light beams of a plurality of colors

With respect to claims 1 and 7-16, Ogawa teaches (Figs. 1 and 3) forming a projector comprising:

Claim 1,

- a light source 30;
- a liquid crystal device 80, which modulates light emitted from the light source;
- projection lens 90, which projects the light modulated by the liquid crystal device;

wherein the liquid crystal device (Fig. 3) having:

- a base substrate 821 that has a plurality of pixel electrodes 823 disposed in a matrix arrangement and drive elements 822 each provided for corresponding one of the pixel electrodes 823 and electrically connected thereto,
- a counter substrate 825 provided with a light-shielding mask 826P which covers at least a portion of the drive elements,
- liquid crystals 827 provided between the base substrate and the counter substrate;

wherein

- the angle of light incident upon the liquid crystal device is restricted not to allow the light to strike the drive elements (col. 5 lines 48-63)

- by tilting an optical axis of the light source (Fig. 3) with respect to a normal line of the counter substrate so that the incident angle of light that strikes the drive elements becomes small when the normal line of the counter substrate and the optical axis of the light source are parallel to each other, the angle of the light incident upon the liquid crystal device is restricted (claim 7)
- an optical axis of the projection lens is shifted parallel to the normal line of the counter substrate in the same direction as the optical axis of the light source (claim 8)
- a micro-lens array 830 comprising a plurality of lenses corresponding to the pixel electrodes is further provided at a light-incident side of the base substrate (claim 9)
- optical axes of the plurality of lenses are shifted parallel to a center of a pixel of the liquid crystal device towards the light source (claim 10)
- the micro-lens array is provided on the counter substrate (claim 11)
- a center axis of the light incident upon the liquid crystal device coincides with a distinct-vision direction of the liquid crystal device (claim 12)
- a viewing angle compensating film (polarizer 840) which causes a center axis of the light incident upon the liquid crystal device and a distinct-vision direction of the liquid crystal device to coincide is further provided at the light-incident side of the liquid crystal device (claims 13 and 15).
- a viewing angle compensating film (polarizer 870) which causes a center axis of light emitted from the liquid crystal device and a distinct-vision direction of

the liquid crystal device to coincide is further provided at a light-exiting side of the liquid crystal device (claims 14, 15).

- a scanning line and a data line crossing and situated above the scanning line on the base substrate are provided at the base substrate, and the drive elements are connected to the data lines and the scanning line (claim 16).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Hatanaka (US5917561A) discloses a liquid-crystal image projecting apparatus having a color purity correction filter.

Bigelow et al. (US5951135A) disclose a color image projection system including a light dispersing system arranged in the path of a composite light beam for separating the composite light beam into spatially separated component beams, an image display arranged in the path of the component beams for producing modulated component beams, and a beam merging system producing a second light beam by merging the modulated component beams.

Lee (US5975705A) discloses a LCD position determination apparatus for an LCD projector which is capable of shortening an assembling time of a projector by facilitating or enabling alignment of the red (R), green (G) and blue (B) cells by detecting the positions of the R, G and B LCDs at the same time when installing the R, G and B LCDs at or along three surfaces of a prism.

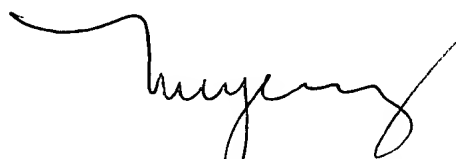
Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Julie-Huyen L. Ngo whose telephone number is (703) 305-3508. The Examiner can normally be reached on T-Friday.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Mr. Robert H. Kim can be reached at (703) 305-3492.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

May 29, 2003



Julie-Huyen L. Ngo

Patent Examiner
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